

U.S. Patent Application Serial No. 09/023,416
Response dated September 8, 2003
Reply to the Final Office Action of April 17, 2003

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Currently Amended): A fluid control apparatus comprising a plurality of lines, each line having a fluid controller, an inlet on-off device and an outlet on-off device arranged respectively at an inlet side and an outlet side of each of the fluid controllers, each of the on-off devices comprising one valve or a plurality of adjacent valves, with the adjacent valves interconnecting each other without using tubing,

each of the on-off devices being of the type selected from the group including a 2 -type on-off device having a two-port valve, a 2-3-type on-off device having a two-port valve and a three-port valve, a 2-3-3 -type on-off device having a two-port valve and two three-port valves, a 3-3-type on-off device having two three-port valves, and a 3-3-3-type on-off device having three three-port valves,

main bodies of two-port valves of all types of on-off devices being identical in configuration and each having an inlet port and an outlet port in a bottom face thereof, and main bodies of three-port valves of all types of on-off devices being identical in configuration and each being formed in a bottom face thereof with an inlet port, an outlet port always in communication with the inlet port, and an inlet-outlet subopening having a port separate from said inlet port and said outlet port;

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each port of said two-port valves and said three-port valves being arranged in a row disposed in a common plane along said each line; and

valve mounts mounting said valve main bodies including a plurality of joint members having upper surfaces disposed in substantial coplanar relation ~~and~~, said valve mounts each having a channel for holding the adjacent inlet port and outlet port of adjacent valves in communication, said joint members each containing ~~internal~~ passages extending entirely internally within the associated joint member to communicate ~~communicating~~ with ports of said valves and operatively ~~interconnecting~~ interconnect said valves and said fluid controllers in selected fluid flow relation.